

IN THE CLAIMS

1. (currently amended) A signal processing device for superimposing digital watermarking information on ~~the given~~ input an audio signal, said device comprises:

psychological auditory sense analysis means for performing psychological auditory sense analysis to predict the effect of performing a predetermined compression process on said audio signal ~~of the survival state of said input signal of the time when said input signal has been compressed, in response to said compression processing, and for outputting the result of the very analysis as the~~ psychological auditory sense encoded information; and

superimposing means for superimposing ~~said~~ on said audio signal first digital watermarking information and second digital watermarking information to create a marked audio signal, said first digital watermarking information and said second digital watermarking information being based on said psychological auditory sense encoded information and being characterized in that, upon compression of said marked signal to create a compressed signal, said first digital watermarking information can be completely or substantially recovered from said compressed signal and said second watermarking information can not be completely or substantially recovered from said compressed signal;

wherein said psychological auditory sense encoded information includes the respective frequency bands of said audio signal on which said first and second digital watermarking information are to be superimposed, and the respective levels to which the first and second digital watermarking information should be set prior to superimposition ~~on said input signal, on the basis of said psychological auditory sense encoded information.~~

2. (currently amended) The signal processing device according to claim 1, wherein said psychological auditory sense analysis means generates said psychological auditory sense encoded information based on a predetermined minimum level of audio signal that can be detected by the auditory sense of a human being , ~~on the basis of the threshold of audibility.~~

3. (currently amended) The signal processing device according to claim 1, wherein said psychological auditory sense analysis means generates said psychological auditory sense encoded information, on the basis of ~~the~~ a masking effect of the audio signal.

4. (canceled)

5. (currently amended) The signal processing device according to claim 1, wherein said digital watermarking information ~~is the~~ includes copyright information relevant to said ~~input~~ audio signal.

6. (currently amended) A signal processing method of superimposing digital watermarking information on ~~the given~~ input an audio signal, said method, comprising the steps of ~~comprises:~~

~~a step of performing psychological auditory sense analysis to predict the effect of performing a predetermined compression process on said audio signal of the survival state of said input signal of the time when said input signal has been compressed, in response to said compression processing, and then outputting the result of the very analysis as the psychological auditory sense encoded information; and~~

~~a step of superimposing said~~ on said audio signal first digital watermarking information and second digital watermarking information to create a marked audio signal, said first digital watermarking information and said second digital watermarking information being based on said

psychological auditory sense encoded information and being characterized in that, upon compression of said marked signal to create a compressed signal, said first digital watermarking information can be completely or substantially recovered from said compressed signal and said second watermarking information can not be completely or substantially recovered from said compressed signal;

wherein said psychological auditory sense encoded information includes the respective frequency bands of said audio signal on which said first and second digital watermarking information are to be superimposed, and the respective levels to which the first and second digital watermarking information should be set prior to superimposition on said input signal, on the basis of said psychological auditory sense encoded information.

7. (currently amended) The signal processing method according to claim 6, wherein at said step of performing psychological auditory sense analysis~~step~~, said psychological auditory sense encoded information is generated based on a predetermined minimum level of audio signal that can be detected by the auditory sense of a human being , ~~on the basis of the threshold of audibility.~~

8. (currently amended) The signal processing method according to claim 6, wherein at said step of performing psychological auditory sense analysis~~step~~, said psychological auditory sense encoded information is generated, on the basis of ~~the~~ a masking effect of the audio signal.

9. (canceled)

10. (currently amended) The signal processing method according to claim 6, wherein said digital watermarking information ~~is the~~ includes copyright information relevant to said ~~input~~ audio signal.

11. (currently amended) A ~~program storing medium for~~
~~causing a signal processing device to execute a program~~
~~comprising storage medium comprising program code for directing~~
a signal processing device to perform the steps of:

~~a step of performing psychological auditory sense~~
~~analysis to predict the effect of performing a~~
~~predetermined compression process on said audio~~
~~signal of the survival state of said input signal of the~~
~~time when said input signal has been compressed, in~~
~~response to said compression processing, and then~~
~~outputting the result of the very analysis as the~~
~~psychological auditory sense encoded information; and~~

~~a step of superimposing said~~ on said audio signal
first digital watermarking information and second digital
watermarking information to create a marked audio signal,
said first digital watermarking information and said second
digital watermarking information being based on said
psychological auditory sense encoded information and being
characterized in that, upon compression of said marked
signal to create a compressed signal, said first digital
watermarking information can be completely or substantially
recovered from said compressed signal and said second
watermarking information can not be completely or
substantially recovered from said compressed signal;

wherein said psychological auditory sense encoded
information includes the respective frequency bands of said
audio signal on which said first and second digital
watermarking information are to be superimposed, and the
respective levels to which the first and second digital
watermarking information should be set prior to
superimposition on said input signal, on the basis of said
~~psychological auditory sense encoded information.~~

12. (currently amended) The program storing medium according to claim 11, wherein at said step of performing psychological auditory sense analysis~~step~~, said psychological auditory sense encoded information is generated based on a predetermined minimum level of audio signal that can be detected by the auditory sense of a human being ~~, on the basis of the threshold of audibility.~~

13. (currently amended) The program storing medium according to claim 11, wherein at said step of performing psychological auditory sense analysis~~step~~, said psychological auditory sense encoded information is generated, on the basis of ~~the~~ a masking effect of the audio signal.

14. (canceled).

15. (currently amended) The program storing medium according to claim 11, wherein said digital watermarking information ~~is the~~ includes copyright information relevant to said ~~input~~ audio signal.